

REMARKS/ARGUMENTS

The Status of the Claims.

Claims 1 to 6, 8, 12 to 18, and 20 to 23 are pending with entry of this amendment, claims 7, 9 to 11, 19 and 24 to 49 being cancelled. Claims 1, 4 to 6, 8, 15, 17, 18 and 23 are amended herein. These amendments introduce no new matter and support is replete throughout the specification. These amendments are made without prejudice and are not to be construed as abandonment of the previously claimed subject matter or agreement with any objection or rejection of record.

With respect to independent claims 1, 15, and 23, support for the archaeal tRNA sequences and glutamyl-tRNA synthetases can be found throughout the specification, and originally filed claims and figures. For example, see specification paragraphs 18, 19, 20, 26, 41, and 95 to 97; Figures 1A and 1B; and the Sequence Listing as filed.

With regard to claims 4 and 17, the amendments merely adjust claim structure, as recommended in the Action.

With regard to claim 5, 8 and 17, the amendments adjust antecedent references to reflect changes made in parent claims or further clarify previously existing subject matter.

With regard to claim 6, the aspect of a 4 to 5-fold greater suppression efficiency can be found, e.g., at paragraph 185.

Applicants submit that no new matter has been added to the application by way of the above Amendment. Accordingly, entry of the Amendment is respectfully requested.

The Information Disclosure Statement.

Applicants note with appreciation the Examiner's thorough consideration of the references cited in the Information Disclosure Statements (Form 1449) submitted on May 17, 2007 and August 27, 2007.

35 U.S.C. §112, Second Paragraph.

Claims 1 to 23 were rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite because of aspects of the "suppressor efficiency" language. In addition, the Office expressed concerns about the "at least about" language. However, in light of current amendments, the cited language is no longer present in the claims and the rejections are moot. Applicants respectfully request withdrawal of the rejections.

With regard to claim 4, Applicants appreciate the logic of the Examiner's statement and have amended the claim as suggested.

35 U.S.C. §112, First Paragraph.

Claims 1 to 23 were rejected under 35 U.S.C. §112, first paragraph, alternately for alleged failure to comply with the written description requirement and for alleged failure of claim enablement. To the extent the rejections are deemed applicable to the amended claims, Applicants traverse.

Current claims meet the written description requirement. Written description is replete throughout the original specification for the claims, as currently amended. For example, compositions comprising glutamyl-tRNAs at least 80% identical to SEQ ID NO.: 67 can be found throughout the specification, e.g., at paragraphs 16, 20, 22, 24, 34 to 38, 49, 59, 63, 65, 90, 123, 124 and 144; and in the Sequence Comparison, Identity and Homology section starting at paragraph 142. Glutamyl-tRNA synthetases derived from the listed archaeal RSs can be found throughout the original specification, e.g., paragraphs 19, 22, 24, 41, 88, 95, 96, and 144; the Examples, and in the Figures.

The present claims are characterized by identified structures and are not described based unduly on functional aspects of the compositions. Applicants respectfully request withdrawal of the written description rejections.

Current claims are enabled. The enablement rejections of the Action were based on objections to the previous claim language. Applicants note that the present claims are directed to embodiments taught and predictable modifications thereof. Applicants note that the present claims have largely been amended to those embodiments indicated in the Action to be enabled.

To be an enabling disclosure under § 112, first paragraph, a patent must contain a description that enables one skilled in the art to make and use the claimed invention. That some experimentation is necessary does not constitute a lack of enablement; the amount of experimentation, however, must not be unduly extensive. See In re Wands, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Whether undue experimentation is required by one skilled in the art is typically determined by reference to eight factors considered relevant to the inquiry: (1) quantity of experimentation necessary; (2) amount of guidance presented; (3) presence of working examples; (4) nature of the invention; (5) state of the prior art; (6) relative skill of those in the art; (7) predictability of the art; and (8) breadth of the claims. See *id.*

The quantity of experimentation required to practice the compositions, as claimed, would be minimal. Given the provided sequences and guidance in the specification, success is certain for many embodiments. In many more embodiments, success would be predictable with reasonable experimentation in light of the specification and skill in the art. For example, functional 80% identical sequence variants would be easy to produce by starting with the given sequences and altering those bases easily identifiable to one in the art, e.g., as less likely to affect the functioning structure, and not altering bases taught as important to structure/function relationships. That is, one can practice the embodiments practiced and one can practice modifications having substantial sequence changes in less important structures of the tRNA or complimentary modifications that retain structural relationships. For example, modified tRNAs, functional in combination with the identified archaeal RSs, can be predictably made, with little experimentation by, e.g., avoiding sequence changes at position 10:28, avoiding changes that ultimately disrupt double stranded bonding in stem regions, retaining the chosen selector codon, and conserving the interacting bases in loop regions.

As mentioned above, the original specification provides substantial guidance, in light of the skill in the art, to practice the claimed compositions. The enabling embodiments are the ultimate guidance. Further, given the starting functional structures and the identified important sequence positions and interacting structures, one of skill can readily practice functional modified embodiments.

The current claims are centered on functional working examples from the original specification. The multiple working examples strongly support enablement of the compositions, as claimed.

It is the nature of the invention that, given the high level of skill in the art and the highly studied nature of tRNA structures, that one could predictably practice the claimed compositions. The state of the prior art is advanced, with all of the methods required to practice the invention being known. It is worth noting that the Court in *Wands* overturned rejections of monoclonal antibody claims where the level of skill was lower than here, there were no descriptions of antibody structures, and the taught methods failed more often than not to provide the claimed compositions.

The breadth of the claims is commensurate with the teachings in the specification in light of the skill in the art. The present claims have been amended to focus on identified structures and modifications readily practiced by one of skill.

The analysis of the *Wands* factors, taking the true nature of the analysis as applied to the classic *Wands* case and Applicant's claims, clearly shows that Applicants have taught one of skill how to make and use the invention. Indeed, in every relevant analysis, the present case more than meets the standard articulated by the *Wands* Court. Applicants respectfully request withdrawal of the rejections.

CONCLUSION

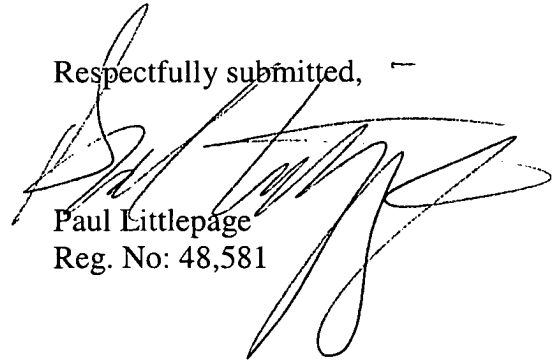
In view of the foregoing, Applicants believes all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the claims are deemed not to be in condition for allowance after consideration of this Response, a telephone interview with the Examiner is hereby requested. Please telephone the undersigned at (510) 769-3507 to schedule an interview.

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Respectfully submitted,



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Attachments:

- 1) A transmittal sheet; and,
- 2) A receipt indication postcard.